


4 August 1961

Please Reference: 604

  
Post Office Box 1407  
Main Post Office  
Washington 13, D. C.

DECLASS REVIEW by NIMA/DOD

Subject: Image Quality Meter Program - Increase in Scope  


Pursuant to recent discussions among Government and Contractor technical personnel, we are pleased to submit for evaluation of your office a proposal for an increase in the scope of performance under the subject Task Order. The changes in scope are divided into the following two items:

- A. Addition of Filtering and Gating Functions, Threshold Control, and Preparation of Photographic Calibration and Test Samples.
- B. Addition of Viewing Optics.


The scope of each of these changes is defined in the Technical Discussion which is forwarded herewith as an enclosure. In addition, a Statement of Work, Delivery Schedule, a listing of Government-furnished property, and Cost Estimates are attached for your evaluation. The cost-plus-fixed-fee estimates are firm for a period of thirty (30) days. Your attention is directed to the fact that the Image Quality Meter, produced under the subject Task Order, is presently completed and undergoing final evaluation and testing. The Contractor's program plan indicates that shipment of the unit will be accomplished 20 August 1961. In the event your evaluation indicates that the incorporation of these changes is desirable, the Contractor will appreciate authority to proceed on or before 14 August 1961 inasmuch as the performance of these tasks requires the availability of the Image Quality Meter Instrument. This will also enable the efficient application of effort toward the completion of these changes.

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We appreciate the opportunity to submit this proposal and submit that the incorporation of these changes is highly desirable. In the event additional information is required, please contact  Director of Contracts, in Los Angeles collect at BRadshaw 2-4331. STATINTL

Very truly yours,

STATINTL



ORIGINAL SIGNED BY



STATINTL

Vice President and General Manager

TCC:lb

- Enclosure 1 - Technical Discussion
- Enclosure 2 - Statement of Work
- Enclosure 3 - Delivery Schedule
- Enclosure 4 - Government-Furnished Property
- Enclosure 5 - Cost Estimates

Enclosure 1  
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**TECHNICAL DISCUSSION FOR INCREASE IN SCOPE  
IMAGE QUALITY METER**

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**A. Addition of Filtering and Gating Functions, Threshold Control, and Preparation of Photographic Calibration and Test Samples**

**1. Manually Variable Low-Pass Frequency Filter**

This filter eliminates extraneous high frequency components of grain noise from the signal without appreciably affecting the resolution signal itself. Its cutoff frequency is continuously variable from high to low so that very grainy, low resolution films may use a lower frequency cutoff than low granularity, high resolution films. Laboratory experiments indicate that this filter can be quite effective.

**2. Manually Variable Computing Gate**

This control will enable the operator to select the portion of the image scanned which is acted upon by the computer. This gate will have two controls, which control gate width and positioning. By use of this gate the computer will be made to ignore all but the desired portion of the sweep.

**3. Manually Variable Computing Threshold**

This control varies the amount of signal required to trigger the computer. Thus, the computing level may be set above the majority of the grain noise for any given film; this level is obviously different for different films. The overall effect minimizes computations being performed on grain noise and causes the computer to act in response to recorded imagery.

**4. Addition to the Density Display**

Included in the above described work are the changes in the density display to provide indicators for the settings of the controls to be added. The computing gate position will be indicated by intensity modulation of the oscilloscope to indicate those portions of the sweep time within the gate. Certain other waveforms from within the computer will also be required to be displayed; these will be selected by means of a switch to be added to the control panel.

## **TECHNICAL DISCUSSION FOR INCREASE IN SCOPE IMAGE QUALITY METER**

### **5. Preparation of Film Test Material**

For calibration purposes it is necessary to prepare several high-contrast, low-noise, single-frequency test targets. These consist of a series of single exposures of equally spaced bars whose aspect ratio is 10:1 or more at several different spacings. Several different targets will be prepared and provided with the instrument for periodic calibration purposes.

### **6. Addition of Viewing Optics**

No provision was made in the original proposal for the operator to view, with magnification, the area on the input film which is scanned by the moving spot. The design in progress for the optical and mechanical parts of the Quality Meter will permit direct viewing of the film to be scanned just prior to its enclosure by the retaining hood, although this viewing is oblique, and therefore not entirely satisfactory. By using the scanning lens as a microscope objective, it is possible to view, with magnification, the precise area under surveillance by the instrument. To accomplish this, it will be necessary to provide for an illuminating light source under the film table to provide for the insertion of a mirror in the light path beyond the objective lens, to provide for an eyepiece holder to view the image through this mirror, and to provide the positioning controls and indicators on the rocking mirror assembly so that the rocking mirror may be accurately positioned to bring the image in correct alignment with a cross-hair in the eyepiece.

**STATEMENT OF WORK FOR INCREASE IN SCOPE  
IMAGE QUALITY METER**

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**A. Supply Engineering Services for the following:**

1. Addition of Filtering Function to Image Quality Meter.
2. Addition of Gating Function to Image Quality Meter.
3. Addition of Threshold Control to Image Quality Meter.
4. Preparation of Photographic Calibration and Test Samples.

**B. Viewing Optics:**

Provide engineering services and materials for the design, fabrication, and installation of viewing optical sub-system to the Image Quality Meter, consisting of objective lens, eye lenses, mirror, and cross-hair reticle, illuminating system, and a linkage system permitting the insertion and removal of the optical components into the scanning light path at the control of the operator.

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### **DELIVERY SCHEDULE**

- A.     **The delivery schedule for the Image Quality Meter Device  
incorporating the changes described in this letter:**

**Within seven (7) weeks after authority to proceed**

- B.     **Submittal of final report and operation manual:**

**Six (6) weeks after completion of the device**

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**GOVERNMENT-FURNISHED PROPERTY**

We require the Image Quality Meter Device, produced under this contract, during the entire performance period for the accomplishment of these changes on a no-charge-for-use basis.

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Please Reference:  
A51-61-1591

United States Government  
2430 E. Street N. W.  
Washington 25, D. C.

Attention: [REDACTED]  
Contracting Officer

Subject: Image Quality Meter Program  
[REDACTED]

STATINTL

References: (a) Contractor's Letter No. 469 dated 18 January 1961  
(b) U. S. Government Letter dated 7 February 1961

Dear [REDACTED]

In accordance with References (a) and (b) the Contractor agreed to bear the additional expense out of corporate funds for the continuation of the performance under the subject Task Order. The Contractor has continued performance in accordance with the above mentioned agreement, and the Image Quality Meter is completed and is presently undergoing final evaluation and testing for delivery 20 August 1961. It is requested that an appropriate amendment to the Contract be issued to provide for an extension in delivery date to 20 August 1961.

The Contractor, this date, has forwarded under separate cover a proposal for items of additional scope which our respective technical representatives suggest are desirable. A copy of this proposed increase in scope has been directed to your office for evaluation (i.e., Contractor's letter No. 604 dated 4 August 1961.) The acceptance of this offer will affect the completion date of the Contract as well as increase the dollar amount. It is suggested that the proposed increase in scope and this letter be considered concurrently in order to avoid needless duplication in effort to prepare revised contractual documentation. We trust that this information is satisfactory to your office.

STATINTL

[REDACTED]  
A51-61-1581

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In the event additional information is required, please contact our [REDACTED]  
[REDACTED] in Los Angeles, collect, at [REDACTED] 2-4331.

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Very truly yours,

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[REDACTED]  
Vice President and General Manager

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